

**ABSTRACT**

A method of determining the relative amounts of individual polynucleotides in a complex mixture of different-sequence polynucleotides is disclosed. The polynucleotides, after fluorescent labeling, are contacted under hybridization conditions with an array of different DNA sequences disposed at discrete locations on a non-porous surface, at an array density of at least about 100 sequences/cm<sup>2</sup>, where the different DNA sequences in the array are effective to hybridize to individual polynucleotides in the mixture. The level of fluorescence associated with each array sequence provides a measure of its relative amount in the mixture.

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